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(54) Title: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

(57) Abstract: The present invention provides novel nucleic acids, novel polypeptide sequences encoded by these nucleic acids and uses thereof.

Polypeptides of the invention may be involved in cancer cell generation, proliferation or metastasis. Detection of the presence or amount of polynucleotides or polypeptides of the invention may be useful for the diagnosis and/or prognosis of one or more types of cancer. For example, the presence or increased expression of a polynucleotide/polypeptide of the invention 5 may indicate a hereditary risk of cancer, a precancerous condition, or an ongoing malignancy. Conversely, a defect in the gene or absence of the polypeptide may be associated with a cancer condition. Identification of single nucleotide polymorphisms associated with cancer or a predisposition to cancer may also be useful for diagnosis or prognosis.

Cancer treatments promote tumor regression by inhibiting tumor cell proliferation, 10 inhibiting angiogenesis (growth of new blood vessels that is necessary to support tumor growth) and/or prohibiting metastasis by reducing tumor cell motility or invasiveness. Therapeutic compositions of the invention may be effective in adult and pediatric oncology including in solid phase tumors/malignancies, locally advanced tumors, human soft tissue sarcomas, metastatic cancer, including lymphatic metastases, blood cell malignancies including multiple myeloma, 15 acute and chronic leukemias, and lymphomas, head and neck cancers including mouth cancer, larynx cancer and thyroid cancer, lung cancers including small cell carcinoma and non-small cell cancers, breast cancers including small cell carcinoma and ductal carcinoma, gastrointestinal cancers including esophageal cancer, stomach cancer, colon cancer, colorectal cancer and polyps associated with colorectal neoplasia, pancreatic cancers, liver cancer, urologic cancers including 20 bladder cancer and prostate cancer, malignancies of the female genital tract including ovarian carcinoma, uterine (including endometrial) cancers, and solid tumor in the ovarian follicle, kidney cancers including renal cell carcinoma, brain cancers including intrinsic brain tumors, neuroblastoma, astrocytic brain tumors, gliomas, metastatic tumor cell invasion in the central nervous system, bone cancers including osteomas, skin cancers including malignant melanoma, 25 tumor progression of human skin keratinocytes, squamous cell carcinoma, basal cell carcinoma, hemangiopericytoma and Karposi's sarcoma.

Polypeptides, polynucleotides, or modulators of polypeptides of the invention (including inhibitors and stimulators of the biological activity of the polypeptide of the invention) may be administered to treat cancer. Therapeutic compositions can be administered in therapeutically 30 effective dosages alone or in combination with adjuvant cancer therapy such as surgery, chemotherapy, radiotherapy, thermotherapy, and laser therapy, and may provide a beneficial effect, e.g. reducing tumor size, slowing rate of tumor growth, inhibiting metastasis, or otherwise improving overall clinical condition, without necessarily eradicating the cancer.

The composition can also be administered in therapeutically effective amounts as a 35 portion of an anti-cancer cocktail. An anti-cancer cocktail is a mixture of the polypeptide or

| SEQ ID NO: | SEQ ID NO: of peptide sequence | Method | SEQ ID NO: in USN 09/540,217 | Nucleotide location of first codon for peptide sequence | Nucleotide location of last codon for last amino acid of peptide sequence | Amino acid sequence (X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion) |
|------------|--------------------------------|--------|------------------------------|---|---|--|
| 20242 | 50610 | A | 20358 | 356 | 1356 | TPTTSGRTRKMWPRPGT*PP/A NCSANINLTHQPWFQVLEPQFR QFLFYRHCYFPMLLNHPEKCR GDVYLLVVVKSVITQHDRREAI RQTWARAAVRGWPSPAVRTL LLGTASKQEERTHYQQLLAYE DALYGDILQWGFLDTFFNLTK EIHFLLWLDIYCPHVPFIFKGDD DVFNPTNLLEFLADRQPQENL FVGDVLQHARPIRRKDNYYIP GALYGKASYPPYAGGGGFLMA GSLARRLHHACDTLELYPIDDV FLGMCLEVLGVQPTAHEGFKTF GISRNRNSRMNKEPCFFRAMLV VHKLLPPELLAMWGLVHSNLT CSRKLQVL |
| 20243 | 50611 | A | 20359 | 221 | 1579 | CCVDEGLEPTCFERTEDIGGVW RFKVSEIFLGLEQVVLLFQGESQ LMSCFSDFPPMPEDFPNFLHNSK LLEYFRIFAKKFDDLKYIQFQVL YFWGNGFLCISSAHI*IENTQSN GKEQSAVFDAVMVCSDGHILP HIPLKSFPGETRWDSQLFGVGF QVLYM*FEGKRILVIGMGNSGS DIAVELSKNAAQV*CSLLTMYL EGRKWGCHTDWDWSVHTRFR SMLRNVLPRATAVKWMIEQQM NRWFNHENYGLEPQNK*SYFA FLMVYSLVSKVV*RCLKVKST VKELTETSAIFEDGTVEENIDVII FATGYSFSFPFLEDSLVKVENN MVSPLYKYIFPAHLDKSTLACIG LIQPLGSIFPTAELQARWVTRVF KGLCSLPSERTMMMDIIRNEK RIDLFGESQSQTQTNYVDYLD ELALEIGAKPDFCSLLFKDPKLA VRLYFGP\ CNSY |
| 20244 | 50612 | A | 20360 | 3 | 200 | |
| 20245 | 50613 | A | 20361 | 292 | 570 | |
| 20246 | 50614 | A | 20362 | 2 | 511 | RLLRSGPLRLPGADSGSGPKAVC SPPFIVAPTPRGYCGDHHESSFGA MEEPGVTTPQPYLGLLLEELRRV SPGAMSVTWP/EGSREPPGEGSS RPAALGSKPPWSEVPKPVLVCCP APAR\FEAVVRLVGRLSGFCVM EEDLGLWEGREKKLALMLSGLI EEKSKLLEKFSLVQKE |